Discursive constraints on the lexical realization of arguments in Spanish*

Ekaterina Khorounjaia and Liliana Tolchinsky

1. Introduction

In natural language use, messages contain both new and given information. If we say only what our interlocutor knows, the communicative act is pointless and boring, while if we say only unknown things, communication becomes impossible. As a result, we usually combine the two kinds of information in a single message. On the other hand, people tend to minimize the amount of new information they transmit in an utterance. This is because processing new information is highly demanding (Givón 1975): it needs to be activated, since it is provided for the first time by the interlocutor or is currently in the listener's long-term memory. As a result, new information recruits more cognitive resources than given information, which is 'active' and readily accessible, since it is in the listener's focus of consciousness (Chafe 1987).[1] Moreover, speakers tend to distribute new and given information in different syntactic positions of an utterance, apparently in order to facilitate processing. For example, new information is usually introduced in object rather than in subject position. The study described in this chapter examines the relationship between information flow and the syntactic patterns of argument structure. Following the work of Du Bois (1987), we argue that the choice of argument position for introducing new information is not random, but is governed by discursive constraints.

Do children need explicit instruction on these patterns of information distribution, or do these patterns evolve as part of their discursive development? How specific are these patterns to particular communicative contexts? To address these questions, we explored how patterns of new and given information are distributed in oral texts produced by Spanish-speaking children,

adolescents, and adults, when telling a personal-experience narrative and when discussing the topic of interpersonal conflict.

Research on text production in young children reveals early sensitivity to genre differences (Hicks 1991; Hudson & Shapiro 1991; Sandbank 2002). Studies in different languages indicate that 9-year-old fourth-graders distinguish narratives from expository texts at all levels of linguistic expression – lexical, phrasal, and clausal, as well as discursive (Berman & Nir-Sagiv 2004). The questions addressed here in this respect are: Does genre affect the relationship between information status and argument structure, or does information manifest itself similarly irrespective of genre?

The goal of this study is twofold: to explore whether choices of argument structure made by schoolchildren and adolescents observe the same constraints as govern adult usage in different languages, and to examine the effect of discourse genre on these choices.

1.1   Argument structure

As background, we start by discussing the notion of *argument structure*, the key theme of the present study. A predicate expresses a relation (or relations) among participants, termed the *arguments* of the predicate. Consider the examples in (1):

(1)   a.   The teacher put the book on the table
      b.   The clown laughed
      c.   She suggested this idea
      d.   *The teacher laughed the book on the table
      e.   *The clown put
      f.   *She put this idea

In these examples, the predicates are the verbs *put* in (1a), *laughed* in (1b) and *suggested* in (1c).[2] In (1a), the participants *the teacher, the book,* and *on the table* each constitute one of the arguments of *put*. Similarly, in (1b) *the clown* is the argument required by *laughed*, and in (1c) *she* and *this idea* are the arguments required by *suggested*. If the number of participants does not match the number of arguments specified by a given predicate, ungrammatical sentences result, as in (1d) to (1f). The correspondence between grammatical functions (Subject, Direct Object, Indirect Object, etc.) and the arguments of a predicate is relatively predictable, and is partially determined by the semantics of the predicate. These principles are so general and yet so constrained that even novel or nonce verbs will conform to them. Thus, the argument structure

of a predicate is the minimal information needed for determining its syntactic frame (Alsina 1996).

Our study focuses on two universal types of argument structure: transitive and intransitive.[3] Transitive sentences require at least two arguments – a subject and an object – whereas an intransitive requires only one. In some languages, word order is fixed: English, for example, is a strictly SVO language, so that the subject in English is always preverbal and the object postverbal (Thompson 1978). Other languages, including Spanish, have freer word order, and argument positions relative to the verb are more dependent on discursive factors.

Because the number and type of arguments are syntactically defined, it is of interest to investigate the possible effect of discursive factors such as information flow on speakers' choice of argument structure. Such an effect would mean that pragmatics plays a role not only in the more flexible, optional aspects of grammar, but also in ones that are more fixed and obligatory.

Arguments may also vary in surface expression. Subjects can be expressed by a lexical noun or noun phrase, by a pronoun and – in so-called 'null subject' or pro-drop' languages like Spanish, Italian, or Hebrew – they may have zero expression. An overt subject need not appear in two main types of constructions: (1) In canonic 'pro-drop' contexts, the verb is inflected for person, obviating the need for an overt pronoun subject because the subject is identified by verb morphology; and (2) in impersonal subjectless constructions, where the verb has generic rather than personal reference. In the first type, an overt subject is optional, while in the second type it is prohibited. In 'non pro-drop' languages like English or French, non-overt subjects occur in very restricted contexts, typically beyond the simple clause, for example, in same-subject coordination. Use of different positions (preverbal or postverbal) as well as different realizations (e.g., lexical nouns or pronouns) has both discursive causes and consequences. For example, postverbal nouns are often used to introduce new referents, whereas preverbal NP's are more often used to maintain reference to existing entities (Kail & Sánchez-López 1997; Karmiloff-Smith 1979).

To recapitulate, the number and type of arguments is general across languages for transitive and intransitive sentences, while the position of arguments with respect to the verb and the realization of subjects in the form of noun phrases, lexical nouns, pronouns, or zero may vary. We further suggest that this is affected by the typological distinction between languages that allow zero subject marking to a greater or lesser degree.

Another dimension relevant to the relationship between grammar and discourse is the distinction between the three 'core arguments': the two obligatory arguments of a transitive sentence (subject and object) and the one obligatory

argument of an intransitive sentence (subject). In languages like English and Spanish, speakers treat the subjects of transitive and intransitive sentences similarly. The unmarked position for both is sentence-initial; both subjects control agreement features of the verb; and both subjects may be replaced by the same kind of pronouns (Keenan 1976). These features distinguish the two types of subject from the object, as shown in the examples in (2). The subject in (2a), *She*, is expressed by the same pronoun as the subject in (2b), although the first sentence is transitive and the second intransitive, differing from the object pronoun *her* in (2a); and in (2a) it is the singular subject *She* that determines the morphological marking on the verb.

(2)   a.   She has never met her.
        b.   She has slept for hours.

Nominative-accusative languages like English, Spanish, Hebrew, and other European or Semitic languages treat transitive and intransitive subjects similarly and have an opposition between the grammatical functions of 'subject' and 'object'. In contrast, *ergative-absolutive* languages involve an opposition between the subjects of transitive and intransitive clauses, and group the subjects of intransitives together with the objects of transitive sentences. This yields a three-way distinction between Transitive Subjects/Intransitive Subjects and Transitive Objects, which is typically morphologically marked on nouns and/or pronouns. Dixon's (1987) proposal to specify these distinctions by the letters A, S and O – where A is the 'transitive subject', S the 'intransitive subject', and O the 'transitive object' – assigns distinct labels to transitive and intransitive subjects, and so neutralizes the traditional categories based on nominative-accusative languages.[4] The question of concern to the present study is to what extent the *syntactic* opposition of the three core arguments – S and A versus O – is also a *discursive* opposition: that is, whether the discursive functions of arguments fall into the same tripartite pattern of grouping.

1.2   Flow of information and argument structure

The idea of analyzing the patterns of relationship between the distribution of new information and argument structure was first proposed by Du Bois (1987). His analysis of narrative texts in Sakapultec Maya, an ergative-absolutive language, led him to conclude that, in parallel to syntactic and morphological ergativity, the distribution of *new* and *given* information also tended to follow an ergative pattern. Finding that new information was introduced in the positions of intransitive subject (S) and object (O), with given information encoded

in the transitive subject (A), Du Bois suggested that the main syntactic distinction between languages (nominative versus ergative) is motivated discursively: On the one hand, there is a strong motivation to group together S and O as the argument position for *new* information while, on the other hand, S and A can be combined as a position for *topical* (or non-new) information. A language is then defined as nominative or ergative depending on which tendency is the stronger.

Moreover, because speakers tend naturally to minimize the amount of new information in a given interchange, sentences with two obligatory arguments – transitive sentences – are likely to contain only *one* new argument, not two. But the choice of which argument should carry the new information is open: either the subject or the object can do so. In sentences with only one obligatory argument – intransitive sentences – the possibilities are obviously more limited. Nonetheless, Du Bois found that subjects of intransitive sentences are more likely to carry new than known information.

To describe this tendency in distribution of new and given information, Du Bois proposed a 'Preferred Argument Structure', defined by four constraints that regulate the informational status and surface form of core arguments. Two of these constraints are general: (1) Avoid more than one lexical argument per clause and (2) avoid more than one new argument per clause. The other two are specific to the A-argument: (3) Avoid lexical A's and (4) avoid new A's. These constraints on information flow are thought to help listeners in processing incoming information.

Not only is the distribution of information among the different types of arguments discursively motivated, so is the specific surface realization of the arguments. As noted, these can be realized by several types of referring expressions: lexical descriptions, personal pronouns, demonstratives, or zero, as illustrated for Spanish in (3).

(3) a. *el niño duerme*
         'The boy sleeps'
     b. *él duerme*
         'He sleeps'
     c. *ese duerme*
         'That (one) sleeps'
     d. *duerme*
         '(He/she/it) sleeps'

The first formulation (3a) is the most explicit, since it gives a fuller picture of the situation than the second (3b), which could refer to a man, and much more

so than (3d), which could refer to a boy or a girl, a man or a woman, or a dog or cat. In terms of Ariel's (1990) notion of 'accessibility', full lexical realizations are low accessibility markers, since they serve as indicators of *new*, less active information. Pronouns are higher accessibility markers, and zero marking still higher. The decision to use a certain type of realization depends on a range of cognitive and discursive factors, implying that speakers (or writers) recognize the addressees' need to identify, activate or "recover" (Halliday 1967) the discourse referents.

Speakers' attempt to reduce the use of lexical arguments as part of the tendency to minimize new information was articulated by Chafe's (1994) proposal of the 'Light Subject Constraint'. Chafe argues that subjects in conversational discourse are either not new or of trivial importance, they refer to given or accessible information, and are realized mainly as pronouns. He makes no distinction, however, between transitive and intransitive subjects, ascribing the absence of 'heavy' realizations to a general avoidance of new information in any subject position. Du Bois, in contrast, argues that differentiation of the subject position is crucial, because of its double role in the distribution of informational flow. This distinction is supported by Assayag's (1999) analysis of narrative and expository texts produced by Hebrew-speaking university students asked to tell a story about an incident of interpersonal conflict and to discuss the problem of violence in schools (Berman & Ravid 1999). Assayag found that S-subjects in both genres were realized by low accessibility markers (lexical NP's) more frequently than A-subjects, whereas A-subjects were realized by medium and high accessibility markers (pronouns and zero marking) more frequently than S-subjects. In other words, it is not the subject position as such that determines the use of lower or higher accessibility markers, but the position within a transitive or intransitive clause. Because these positions carry information of different status, their surface realizations differ.

Thus, a further issue addressed in our study is the surface realization of subjects and objects. Full noun phrases, as low accessibility markers, were expected to appear more frequently in S and O argument positions carrying new information, and to be avoided in A.

1.3   Genre, age, and argument structure

Assuming that the selection of argument structure is constrained by the flow of information and that speakers do indeed manifest a Preferred Argument Structure for marking the difference between new and given information, the question arises how generally this applies across discourse genres. Do speakers

choose similar argument positions for new information whether telling a story, describing an object, or analyzing a topic?

There is no general consensus on use of the term 'genre', and it has been used interchangeably with the term 'register' in different research domains (e.g., Biber 1995; Guenthner & Knoblauch 1995; Miller 1984). Here, we adopt Ferguson's (1994:21) sociolinguistic characterization of the notion as

> A message type that recurs regularly in a community (in terms of semantic content, participants, occasions of use, and so on) will tend over time to develop an identifying internal structure, differentiated from other message types in the repertoire of the community.

to address the question of whether this 'identifying internal structure' will involve a Preferred Argument Structure.

Participants in the study were asked to produce texts in two contrasting genres: an account of an incident related to a conflict at school in which they had been personally involved, that is, a *personal-experience narrative*, and a consideration of the topic of interpersonal conflict from an analytical point of view, that is, an *expository discussion*.[5] Various analyses deriving from the crosslinguistic project in which this study is embedded indicate that the youngest subjects (9- to 10-year-olds) were able to distinguish narratives from expository texts in the linguistic devices they used, including in lexical usage (Gayraud 2000), types of subjects (Ravid et al. 2002), tense-aspect markings (Ragnarsdóttir et al. 2002), lexical modality (Reilly et al. 2002), types of verbs and clause constructions (Berman & Nir-Sagiv 2004). The question is whether and to what extent genre also has an effect on Preferred Argument Structure.

In line with Givón (1983), Du Bois' explanation for the appearance of lexical and new mentions in S and O but not in A relates to topic continuity in narrative discourse. Human protagonists as key participants are maintained in successive clauses and referred to by means of pronouns rather than full NPs. The O position, instead, is occupied by changing participants, usually inanimate, that will not be maintained across many clauses. The changing status of these referents explains why O position is used for new information and why they are referred to by more explicit means like full NPs. As for S, Du Bois relates the preference of this role for new information to the function of intransitive verbs in the flow of information, mainly the way they function for introducing new referents. Indeed, he found that most intransitive predicates were used for introducing referents that were maintained by topical (or *given*) reference in the A position.

The proposals of Du Bois and Givón provide support for a consistent finding for the surface realization of subjects and objects across narrative and expository discourse. Expository discussions are typically concerned with concepts, ideas, and processes that are either unknown to addressees or must be activated from their long-term memory or general world knowledge. Narratives, in contrast, are about particular people in specific temporally and spatially defined circumstances, who can be referred to pronominally, for reasons noted earlier. Thus, encoding of grammatical subjects, lexical subjects – particularly heavy ones with phrasal and clausal modifications – are commoner in expository than in narrative texts.

Expository texts and narratives also differ along the dimension of personal involvement (Berman et al. 2002; Chafe 1994). First person narratives – like those elicited in the present study – represent the highest point of involvement, whereas expository texts tend to be more detached and impersonal. One indicator of different levels of personal involvement is the type of pronouns used in each genre. Speakers of different languages at different ages preferred use of personal pronouns in narratives as against impersonal and generic pronouns in expository texts (Jisa, this volume; Ravid et al. 2002; Reilly et al. in press; Ragnarsdóttir & Strömqvist in press; van Hell et al. in press).

Referring expressions are not the only discursive devices that characterize narratives compared with expository texts. As Longacre notes, narratives are 'agent-oriented' where expository texts are 'topic-oriented': "While narrative discourse is agent oriented and, furthermore, deals with the actions of particular agents, expository discourse lacks this agent orientation and deals more with generalities" (Longacre 1996: 245). This leads to the prediction that genre-specific demands will yield different grammatical constructions. For example (as demonstrated by Berman & Nir-Sagiv 2004, for Hebrew), stative copular clauses rather than lexical verbs are more likely in referring to static situations, and impersonal clauses can be expected in non-agentive contexts.

Studies of the influence of genre on the relation between argument structure and informational flow have reached contradictory conclusions. While Assayag (1999) concludes that the PAS constraints act similarly across genres, O'Dowd's (1990) analysis of expository texts shows that the PAS pattern is characteristic only of narratives, where a human protagonist is likely to appear in the A position in the role of actor. This conclusion, however, is limited since O'Dowd analyzed a very specific text type: a training session in cardiopulmonary resuscitation (in terms of genre – a lecture or instructional dialogue). Kumpf examined the relationship between genre and argument structure in conversation versus narrative (Kumpf 1992) and in high school science class-

room discourse (Kumpf 2003). She found that PAS is maintained across genres, although teacher lecturing yields a high proportion of lexical S's and O's.

In light of these findings, we decided to focus on possible effects of both genre differences and animacy. The two discourse types used for our comparison – a personal-experience account and an expository discussion – are both about the shared theme of 'problems between people', and so involve human protagonists. In the selected sub-genre of narrative, however, the narrator is also the protagonist, a feature that in a sense magnifies the properties of A as a role to be filled by given mention of a topical human protagonist, favoring a pronoun rather than a full NP.

What concerns us here is a pattern of information distribution that has been found in typologically different languages like Hebrew and Sakapultec and that seems to reveal a basic discursive mechanism reflected in the grammar of different languages (Du Bois 1987; Durie 1988; Dutra 1987). And there is growing evidence that the speech of young children acquiring different languages exhibits PAS similar to that of adults, in studies on Venezuelan Spanish (Bentivoglio 1994), Korean (Clancy 2003), and Inuktitut (Allen & Schroeder 2003).

Given the crosslinguistic generality of this pattern and the fact that the youngest participants in the present study were nine-year olds who have already acquired basic grammatical and discursive processes (see Tolchinsky, this volume), we expected this pattern of information distribution to appear from the youngest age group, with no significant age-related differences. That is, the constraints which comprise Preferred Argument Structure, appear to us good candidates for a stable aspect of linguistic competence that does not change as a function of (later) language development.

In sum, the study reported on below concerns the effects of genre and development in expression of Preferred Argument Structure. We expect to confirm the correlation between type of argument and the status of the information that it conveys: the preferred argument for introducing new information will be O, followed by S, while the A position will be largely avoided for expressing new information. We also expect to find a general avoidance of lexical realizations of subjects, especially in transitive clauses, although there might be genre differences in this respect: For example, a higher occurrence of lexical nominals in expository texts might yield more lexical nouns in A position. And we expect to find a preference for certain types of constructions, such as copular and impersonal clauses in expository compared with narrative texts. In developmental perspective, we predict that the general tendency to avoid lexical subjects and new arguments will be common across age groups.

2.   Description of study

2.1   Corpus

Our data-base is a sample of Spanish-language texts collected in Cordova, Spain. Each participant produced four texts relating to the same content. Subjects were shown a short wordless video depicting situations of interpersonal conflict in a school setting, and were then asked to talk and to write about "something similar that happened to you" and "your reflections on the topic of problems at school". (For details, see Berman & Verhoeven 2002a). Here, we analyze only *oral* texts, one narrative and one expository, produced by 10 participants at each of four levels: grade school, junior high, high school, and university, giving a total of 80 texts divided equally between the two genres (narrative and expository).

2.2   Coding

All the texts were coded for: argument types, linguistic realization, animacy and position with respect to the verb (for subjects), and informational status. Since the four constraints defining Preferred Argument Structure (Section 1.2) apply only to core arguments – subjects and (direct) objects – our analysis is confined to transitive and intransitive clauses with finite verbs.

Several other clause types were also considered but, in contrast to other studies (Ashby & Bentivoglio 1997, 2003; England & Martin 2003) without separate coding for argument structure: constructions with copular, impersonal, or nonfinite predicates, and gapped or verbless clauses. This enabled us to examine whether there is a genre-based preference for certain clause types, on the assumption that expository texts would contain more copular and impersonal constructions than narratives. In finite-verb clauses, we also looked for a relationship between information flow and argument types and specified the surface realization, position, and animacy of Subject arguments.

2.2.1   *Argument type*

For each clause, the surface grammatical role of its 'core' arguments was classified as A, S or O, disregarding oblique NP's and adjuncts as outside 'direct' argument structure (Du Bois 1985). S is the sole argument of intransitive verbs as shown in the example in (4b), while A and O are the arguments of transitive verbs – in (4a) and (4c) respectively. Purely syntactic criteria were applied in defining these categories (transitive and intransitive) because, except for the

clitic *se* that often changes a transitive construction to intransitive, Spanish verbs are not morphologically marked for transitivity (Hidalgo 1994). Besides, in semantic terms, transitivity should be viewed along a continuum rather than as binary (Thompson & Hopper 2001).

(4) a. *Porque mis padres* (**A**) *no me han enseñado a hacer otra cosa*
         because my parents not me (clitic **O**) have taught to do other thing
         'Because my parents haven't taught me to do anything else' [pA08fes][6]
     b. *Y estas cosas* (**S**) *pués surgen*
         'And these things, well, appear' [pA05mes]
     c. *Y necesitas mucho el apoyo de los demas* (**O**)
         and need-2ndsɢ much the support of the others
         'And you very much need/one needs support from other people'
         [pH02fes]

Although Spanish nouns are not marked for case, the subject is readily identifiable, since it controls number and person agreement on the verb. With objects, case-marking is encoded by means of clitic pronouns (see below) which help decide whether an object is direct or indirect.

2.2.2   *Morphological forms*

Three main types of surface forms were distinguished: zero, pronouns, and full noun phrases, as illustrated in (5) through (8). Spanish verbs agree with the subject in person and number, for which they are inflectionally marked, making the zero form the unmarked case of (pronominal) subject reference.

2.2.2.1 *Zero.* Applies only to subjects, as shown in (5).

(5) (**S**) *Hemos empezado por una serie de preguntas*
     have-1stPL started with a series of questions
     '(We) began with a series of questions' [pA06mes]

2.2.2.2 *Personal pronouns.* Personal pronouns agree for person and number in first- and second-person singular and for person, number, and gender in third-person singular and plural and in first- and second-person plural.[7] They are also marked for case: nominative (e.g., *yo*, 'I'; *tu*, 'you', *el*, 'he'); accusative and dative (e.g., *me* 1stSg, *nos* 1stPl), or oblique (e.g., *conmigo* 'with me'). In addition, there is a phonological distinction between stressed and unstressed personal pronouns – with each having different syntactic and semantic properties. Pronouns in nominative and oblique case are always stressed; pronouns

in accusative and dative case are unstressed. Further, stressed pronouns may have only human referents, as in (6b), whereas unstressed pronouns may have plus or minus human as well as plus or minus animate referents, as in (7b).

(6) a. *El alumno escribe ∼ Él escribe*
         'The pupil writes' ∼ 'He writes'
     b. *El lápiz escribe ∼ *Él escribe*
         'The pencil writes' ∼ *He/It writes

(7) a. *La niña escribió las cartas ∼ La niña las escribió*
         'The girl wrote the letters' ∼ the girl (clitic O) wrote =
         'The girl wrote them'
     b. *La niña beso a su madre ∼ La niña la besó*
         'The girl kissed her mother' ∼ the girl (clitic O) kissed =
         'The girl kissed her'

As in other pro-drop languages, stressed pronoun subjects are not required; when used, as in (8), they have a contrastive or emphatic connotation, particularly where verb morphology serves to identify the subjects.

(8) *que ellos (**S**) tienen*
     that they have+3rdPL [pA09fes]

In contrast, unstressed or *clitic* pronouns depend phonologically on their host verbs and are required in cases of object ellipsis. They cannot be omitted, since case is not marked on the verb; and they are typically preverbal when the verb is finite, as in (9), and postverbal in non-finite forms like infinitives and gerunds (Fernández-Lagunilla & Anula-Rebollo 1995).

(9) *Antiguamente pués te (clitic O) educaban más o menos los padres*
     Formerly well you-Sg (clitic O) educated more or less the parents
     'Well, formerly your parents sort of educated you' [pA01mes]

2.2.2.3 *Other pronouns.* Demonstrative and relative pronouns like those in (10) were treated separately from the personal pronouns in (6) to (9) for both syntactic and discursive reasons. Syntactically, they can occupy both subject and object positions, so that their syntactic behavior is different from that of clitics and stressed personal pronouns. Discursively, they are less accessible, and more marked.

(10)   a.   *Y pueda eso generar violencia*
       and can this to-generate violence
       'And this could generate violence' [pA13mes]

     b.   *Los que el día de mañana van a seguir haciendo lo mismo*
       those that the day of tomorrow are-going to continue doing the same
       'Those who tomorrow will continue doing the same' [pA06fes]

2.2.2.4 *Full noun phrases* (lexical arguments). Yet another kind of encoding of arguments is provided by noun phrases with lexical heads, as in (11) and (12).

(11)   **Los profesores** *pueden ayudar en eso* (NP+Det)
     the teachers can-3rdPL to help in that
     'Teachers can help with that' [pH03mes]

(12)   *Y al poco llegó* **un profesor jesuita** (NP-Det)
     'And soon came a Jesuit teacher' [pA05mns]

Core arguments may be realized by full noun phrases of different complexity: bare nouns, nouns with only a lexical head, and noun phrases with various kinds of modifiers – adjectival, or prepositional. However, since the PAS constraints disregard internal noun phrase complexity, we did not distinguish different levels of internal complexity in coding lexical arguments, and all possible lexical realizations were considered equivalent. The only distinction in coding lexical arguments was whether they were definite (as in 11) or indefinite (as in 12). Here, too, surface grammatical criteria applied: all noun phrases with a definite article or possessive pronoun were coded as definite, all others as indefinite.[8]

    New information can be expected to be introduced by indefinite NP's, and old or given information by definite. Our analysis showed, however, that this correlation does not always obtain, as noted below.

2.2.2.5 *Clausal complements* (for objects). Object nominals can also take the form of complement clauses as in (13), but these were not counted as lexical arguments because the PAS constraints function within clause boundaries, while complement constructions are themselves clauses, as in (13).[9]

(13)   *Podría decir que es una consecuencia lógica* (Complement Clause)
     'I could say that (it) is a logical consequence' [pA01mes]

2.2.3 *Animacy*

Only subjects were coded for animacy. We further distinguished animate as plus or minus human, since – as expected from personal-experience narratives and discussion of 'problems between people' – referents in both types of texts were all human. (In this, our study contrasts with use of animal-based pictures for eliciting narrative, e.g., Berman & Slobin 1994; Hickmann 2003). Our coding for animacy aimed to examine the relation, if any, between animacy and morphological realization (zero, pronoun, noun phrase), on the one hand, and subject animacy and genre, on the other.

(14) *que **los niños** (+Anim), pues, roban*
      'That the kids, well, steal' [pA08fes]

(15) *y que **la cabina** (–Anim) no responda*
      'And that the (phone)booth (does) not work' [pA05mes]

2.2.4 *Subject position*

In Spanish, subjects can occur both sentence-initially and in postverbal position as in (17) and (16) respectively. The position of the object is more fixed than of the subject, with postverbal the unmarked position for the object, and where the object precedes the verb, it is duplicated by a preverbal clitic pronoun. We therefore analyzed clause position only for subjects, to examine (1) whether and how far Spanish is basically SVO and (2) the relationship between the position of the subject and its informational status, that is, whether subjects that introduce new information tend to appear postverbally position.

(16) *venian sus amigos* (Post verbal S)
      came his friends [pH02mns]
      'His friends came'

(17) *este video **refleja nuestras vivencias*** (Preverbal A)
      'This tape reflects our own experiences' [pA05mes]

2.2.5 *Informational status*

All arguments were coded as given or new according to the type of information they conveyed. This decision was always text-based, according to the previous mention or lack of mention of information in the text. For an argument to be considered given, the information to which it referred must have been mentioned in the text at a distance of less than five clauses, that is, from one to four clauses, before the clause being coded. Arguments that seemed recoverable only

from context (for example, from scenes in the video shown prior to text production) but were not previously mentioned in the texts were coded as 'new'. Recall that subjects were asked to tell a story illustrating a personal experience and to give a talk discussing 'problems between people.' If a speaker began by saying *trata de los problemas* 'deals with the problems,' as did a 7th grade girl giving an expository discussion, the clause was coded as containing new information although the interviewer understood that she was talking about the topic given in the elicitation instructions and illustrated in the video. Contextual information is always needed for interpreting utterances, but our concern was whether subjects could 'textualize' the required information, referring to it in their discourse without resorting to the extra-textual context as part of their referring strategies. In other words, we were interested in their ability to create an 'autonomous' piece of discourse (Tolchinsky et al. 2002).

Arguments realized by a first-person pronoun (referring to the speaker) were coded as given, because any discourse always implies a speaker who does not need to be introduced – especially in the context in which the texts analyzed here were produced.

3.   Analyses and findings

All the oral texts were transcribed and divided into clauses following the conventions specified by Berman and Slobin (1994:660–663), as adapted for the cross linguistic study on which the present study is based (Berman & Verhoeven 2002:11).

Our focus was thus on monologic texts produced by speakers from age nine years across adolescence and into adulthood. This was the territory within which we defined *given* and *new* information, so that we excluded from analysis preparatory dialogues between speaker and interviewer or remarks made by the speaker to the investigator during the interview.

The texts varied in length as measured by number of clauses. Our calculations thus took the form of the internal distribution of a given category out of total occurrences of a given target structure or of proportions, that is: total number of occurrences of a target structure divided by total number of clauses.

Our first analysis looked for the distribution of all the types of clauses in our sample. This analysis shows that what we defined as transitive and intransitive clauses had the highest frequency in both genres. They account for 76% of the total coded clauses in narratives and for 67% in expository texts. As predicted, Copular, Impersonal, and Nonfinite clauses were more frequent in

Table 1. Breakdown (in number and percentages) of argument type used in narrative and expository texts, by age group [n = 40]

| | Argument Type | | | |
	A	S	O	Total clauses
Narrative	48 (428)	51.5 (458)	48.5 (433)	100 (891)
Expository	46.3 (408)	48.9 (433)	51.1 (454)	100 (887)

expository than in narrative texts. Of these, Copular clauses were most frequent and account for 19% of the clauses in expository texts and under 14% of the clauses in the narratives. Nonfinites and Impersonals account for less than 5% in narratives and almost double for expository. There were very few occurrences of verbless clauses (less that 1%). Except for verb gapping, use of construction-type is genre-dependent, confirming findings for written narrative versus expository texts produced by the Hebrew-speaking participants of the larger project (Berman & Nir-Sagiv 2004).

Our next analysis focuses on the transitive and intransitive clauses for the distribution of the different types of arguments (A, S and O) by age group and genre. The figures in Table 1 show the percentage of each type of argument over the total of transitive and intransitive clauses in each type of text (raw number of occurrences appear in parentheses). Narrative texts show a similar proportion of argument types (between 48% and 51% for each type) unlike expository texts, where the percentage of S and O arguments is also similar, but A arguments are less frequent. Note that the difference between number of A's and of O's in expository texts is related to the frequent use of existentials (e.g., *hay muchos niños* 'have [=there are] a lot of children'. Although the NP following the existential verb is the sole argument, syntactically it is an O.[10]

As genre demands would lead us to predict, agentive subjects occur less often in expository texts than in narratives, but the other two argument types present a very similar distribution. A series of separate ANOVA's with repeated measures on the mean proportion of each type of argument over total number of clauses showed that the effect of genre is significant only for A arguments (F(36, 1) = 7,052; p < .01) (X for narratives 35. 37 and X for expository texts 27. 35). The distribution of argument types was similar in all age groups, indicating that choice of argument type is not a developmental phenomenon.

As to whether there is a preferred argument type for introducing new information and whether, following Du Bois (1985), there is a general avoidance of *new* A's, we classified all arguments as providing new or given information. No effect was found for the factor of Age on selection of arguments. Accord-

Table 2. Breakdown of argument type (A, S and O) by new and given information [n = 40]

	Given	New	Total
Narratives			
A: Subject of transitive verbs	91.3 (391)	8.7 (37)	100 (428)
S: Subject of intransitive verbs	72.0 (330)	28.0 (128)	100 (458)
O: Object of transitive verbs	43.4 (188)	56.6 (245)	100 (433)
Expositories			
A: Subject of transitive verbs	85.6 (345)	15.4 (63)	100 (408)
S: Subject of intransitive verbs	73.9 (320)	26.1 (113)	100 (433)
O: Object of transitive verbs	35 (159)	65 (295)	100 (454)

ingly, Table 2 presents the breakdown of argument types (A, S and O) by new and given information grouped by genre alone.

In narrative texts, despite the similar proportion of arguments of each type, speakers prefer to introduce new information through the O argument, the object of transitive clauses. Second in order of preference for this purpose is S, the sole argument of intransitive clauses, and last is A, the subject of transitive clauses. We found this *same* pattern in every age group, and for both genres: that is, the order of preference for introducing new information is similar in narrative and expository texts and there is a general avoidance of new A's independent of discourse genre. This general pattern of information distribution is part of children's discursive performance from as early as age nine and does not develop with age, in line with findings for discursive performance of even younger children (Clancy 2003).

As for reference to previously given information, the order of argument preference shows some variation with age and school level but not with genre. Among the youngest speakers, the preferred argument for location of given information is S, the subject of intransitive verbs, but for the two oldest groups it is A, the subject of transitive verbs. In this sense, subjects of transitive clauses differ both from objects and from subjects of intransitive clauses.

Our next analysis concerned the position of the subject (preverbal or postverbal) and the semantic features of subject-referents (animate or inanimate). Recall that Spanish has flexible word order, but the preverbal position is considered unmarked for subjects. Postverbal positioning is associated with more formal registers (Green 1988) and with the introduction of new information. Table 3 presents the breakdown of pre- and post-verbal S and A subjects, over the total of overt subjects, by school-level and genre.

Table 3. Breakdown of transitive and intransitive clauses according to subject position by genre and school level [n = 40]

		A		S	
		Preverbal	Post-verbal	Preverbal	Post-verbal
Narratives	Primary	95.2 (20)	0.8 (1)	83 (25)	17 (5)
	Junior	78.2 (18)	1.8 (5)	56 (23)	44 (18)
	High	97.1 (34)	2.9 (1)	61 (42)	39 (27)
	Adults	89.6 (26)	10.4 (3)	68 (32)	32 (15)
Expository	Primary	89 (9)	11 (2)	79 (19)	21 (5)
	Junior	80 (16)	20 (4)	42 (13)	58 (18)
	High	90 (54)	10 (6)	95 (40)	5 (2)
	Adults	77 (30)	23 (9)	68.5 (50)	31.5 (23)

In general, preverbal position is much more frequent than postverbal, particularly in the youngest age group. This finding supports the idea that the preverbal position of subjects is the unmarked choice. A series of analyses of our data showed that age but not genre is significant ($F (3, 35) = 5,384$, $p < .004$) in this respect. Except for the high school expository texts, the postverbal position is more frequent in S subjects than in A subjects, confirming the correlation between postverbal subjects and the introduction of new information (see also Dutra 1987, for Portuguese).

Consider next the semantic features of subject-referents and the effect of animacy on distribution of new and given information. If texts containing animate protagonists, such as personal-experience narratives, show the same pattern of distribution as texts containing mainly inanimate subjects, such as expository texts, we could claim a general pattern of relationship between argument structure and information status, independently of text type. Our analysis showed an overwhelming preference for animate subjects in both genres; but inanimate subjects in S position were significantly more frequent ($F (1, 34) = 26,411$, $p < .000$) in expository ($X = 11,1653$) than in narrative texts ($X = 4,4722$). As for A arguments, those referring to inanimate subjects were more frequent in expository texts ($X = 3.16$) than in narratives ($X = 0.46$). A-type arguments were not only less frequently used in expository texts than in narratives, when they did occur, they referred to inanimate subjects (e.g., *la discriminación* '(the) discrimination' in *la discriminación provoca problemas* '(the) discrimination provokes problems', *el teléfono no devuelve dinero* 'the telephone (does) not return money'). In other words, each argument type carries a different kind of information. How is this difference between what is grammatically possible and what is discursively useful reflected in speakers' selection of lexical

Table 4. Breakdown of clauses according to number of lexical arguments by genre and school level [n = 40]

	No lexical	One lexical	Two lexical	Total
Narratives				
Grade	67.2 (92)	31.4(43)	1.4 (2)	100 (137)
Junior	77.4 (138)	21 (38)	1.6 (3)	100 (179)
High	71.3 (256)	23.9 (86)	4.7 (17)	100 (359)
Adults	66.2 (143)	31.9 (69)	1.8 (4)	100 (216)
Expository				
Grade	64.7 (68)	33.3 (35)	1.9 (2)	100 (105)
Junior	65.5 (99)	30.4 (46)	3.9 (6)	100 (151)
High	68 (213)	27.1 (85)	4.7 (15)	100 (313)
Adults	63.5 (202)	32 (102)	4.4 (14)	100 (318)

arguments? To address this question, we examined the distribution of clauses by number of arguments that were lexically realized, so as to explore the proposed PAS constraint that speakers tend to avoid using more than one lexical argument per clause.

Table 4 presents the proportion of clauses containing zero, one, or two lexical arguments out of the total of transitive and intransitive clauses in each age group and genre.

Table 4 shows that there are very few clauses with two lexical arguments and relatively more with only one, and both are far less common than clauses with no lexical arguments at all. True, only transitive clauses can have two arguments but, as shown in Table 1, the different argument types are very similar in frequency. The low proportion of clauses with two lexical arguments is therefore not due to the infrequency of transitive clauses, but derives from pragmatic reasons: Speakers avoid lexicalizing both arguments of a transitive clause. What in traditional Spanish grammar is considered a canonical transitive sentence – AVO, with lexical realization of A and O – is almost nonexistent in normal speech. Clearly, it is not the case that clauses without lexical arguments are uninformative; rather, they convey information via the predicate rather than the arguments. The excerpt in (18) is from the text of a nine-year-old girl who managed to tell an entire story using only one clause with a lexical argument (6 clauses out of a total of 23).

(18) *Pues que yo estaba jugando con una amiga.*
well (that) I was playing with a girlfriend
Entonces nos peleamos.
then (we) quarreled

> *Entonces ella no quería más jugar conmigo.*
> then she didn't want to play with me
> *Entonces se fue con otras.*
> then (she) went with others
> *Entonces nos empezaron a insultar y todo eso.*
> then (they) started to insult us and stuff like that
> *Entonces nosotras también les insultábamos.*
> then we also insulted them [pG04fns]

Although these six clauses contain only one lexical realization of a nominal element (*con una amiga* in the first clause) and none in argument position, the text is sufficiently informative for the reader to get the full story. The fact that the girl is telling a personal-experience narrative in which she herself is protagonist might be facilitating her disregard for lexical arguments. The first lexical realization of a noun slot (Ravid, et al. 2002) occurred four clauses later, around halfway through her narrative, when she introduced her sister as another character in her story. This demonstrates how speakers can construct narrative accounts whose major content is transmitted through the predicates.

If, then, speakers are reluctant to use lexical arguments which, if any, arguments are preferred for lexical realization? For example, if full lexical expressions are preferred as subjects of intransitive rather than transitive clauses, the proportion of lexical NP's should be higher for S than for A. Besides, if low accessibility markers like full NP's are used in an argument position dedicated to new information, the informative value of the position is increased; conversely, use of high accessibility markers like pronouns or zero in a position dedicated to given or known information reduces its informative value. Tables 5a and 5b show the proportion of each type of realization (zero, personal pronoun, definite and indefinite noun phrases) out of total noun slots in each argument position, S, A and O, by age level and genre.

The figures in Tables 5a and 5b show that zero is the preferred means of reference for A and S, particularly in the case of transitive sentences, and this is not affected by age or genre. For Spanish speakers, null reference is the preferred means of referring to participants in a situation.

As for O (objects of transitive clauses), preferences were more divided, and changed with age. Use of clitics is preferred by the two younger groups, but this decreases somewhat with age, while use of full lexical noun phrases increases. In other words, the O position becomes increasingly informative with age.

In narrative texts, the percentage of lexical realizations in the S and O arguments was twice that of lexical realizations in the A argument. A separate

Table 5a. Breakdown of referring expressions used in three positions in narrative texts, by age group [n = 40]

	A					S					O				
	Zero	Pro	Other Pro	Lexical	Tot	Zero	Pro	Other Pro	Lexical	Tot	Cli	Pro	Lexical	Compl.	Tot
Grade	69.5 (48)	19 (13)	1.5 (1)	10 (7)	100 (69)	55 (37)	18 (12)	3 (2)	24 (16)	100 (67)	43 (30)	0	30 (21)	27 (19)	100 (70)
Junior	67 (48)	22 (15)	0	11 (8)	100 (71)	62.7 (69)	22 (24)	0	15.3 (17)	100 (110)	39 (27)	10 (7)	24 (16)	27 (19)	100 (69)
High	80.5 (145)	10 (18)	2.3 (4)	7.2 (13)	100 (180)	61.2 (109)	9 (16)	12.3 (22)	17.5 (31)	100 (178)	41 (74)	9.4 (17)	32.6 (59)	17 (31)	100 (181)
Adults	73 (79)	15.7 (17)	7.5 (8)	3.8 (4)	100 (108)	54.4 (56)	6 (6)	10.6 (11)	29 (30)	100 (103)	29.2 (33)	8 (9)	34.5 (39)	28.3 (32)	100 (113)

Table 5b. Breakdown of referring expressions used in three positions in expository texts, by age group [n = 40]

	A					S					O				
	Zero	Pro	Other Pro	Lexical	Tot	Zero	Pro	Other Pro	Lexical	Tot	Cli	Pro	Lexical	Compl.	Tot
Grade	71.8 (28)	20.5 (8)	0	7.7 (3)	100 (39)	54 (28)	9.5 (5)	11.5 (6)	25 (13)	100 (52)	45 (24)	9.4 (5)	40 (21)	5.6 (3)	100 (53)
Junior	63 (34)	15 (8)	11 (6)	11 (6)	100 (54)	69 (69)	1 (1)	7 (7)	23 (23)	100 (99)	34.7 (18)	3.8 (2)	44.3 (23)	17 (9)	100 (52)
High	64 (107)	15 (25)	9 (15)	12 (20)	100 (167)	59 (75)	7 (9)	18.8 (24)	15 (19)	100 (127)	17.7 (33)	8.2 (15)	40.8 (76)	33.31 (62)	100 (186)
Adults	73.6 (109)	9.5 (14)	5.5 (8)	11.4 (17)	100 (148)	53 (82)	5 (8)	19 (29)	23 (36)	100 (155)	20.8 (34)	12.3 (20)	46.6 (76)	20.3 (33)	100 (163)

ANOVA performed on the mean proportion of lexical arguments (including definite and indefinite noun phrases and proper names) revealed no significant differences either by age or genre. That is, speakers produce a similar total amount of lexical realization, but they are selective regarding which types of argument are lexically realized. Positions used for new information receive more lexical realization than positions used for given information. Thus, the morphological realization of the argument reinforces its informative status.

Spanish speakers' preference for null forms applies even where a lexical argument might have been required for communicative reasons.[11] And in fact, use of pronouns or zero rather than lexical nouns may be an obstacle to understanding, especially when the listener does not share the speaker's background knowledge. Consider the example in (19) of how a nine-year-old girl starts her text:

(19)   *Que está mal hecho*
       that it is badly done
       Y que los tenían que llevar al director
       and that them had+3rdPL to take to the principal
       'And they had to take them to the principal' [pg04fes]

The second clause contains two arguments, neither realized lexically. The subject is marked by the suffix *-an* on the verb and the object is a preverbal clitic pronoun (*los* 'them'). Neither is identified for the listener, although the child is obviously talking about something she saw on the elicitation video.

There were many such cases in which a listener who was not present at the interview would find it impossible to understand the text. These problems of reference might be at least partly due to the elicitation conditions. Although participants were asked to produce a text describing their own experience of events and to discuss conflicts like those depicted in the video, the interviewer was present both when the video was shown and when texts were produced. Respondents thus may have been taking this shared knowledge into account when constructing their discourse. Research shows that young children improve their reference devices when there is a genuine situation of unshared knowledge between speaker and interlocutor (Hickmann 2003). Moreover, situations where the absence of shared knowledge is more obvious, such as written texts, might also entail fewer such problems of reference.

4.   Conclusion

Spanish-speaking children and adolescents have a preferred argument structure that is identical to that of Spanish-speaking adults or, for that matter, of Sakapultek-speaking adults (Du Bois 1987). It may not be an exaggeration to say that what we have here is a discursive universal. The four constraints proposed by Du Bois are supported by our data.

Concerning the constraint on the number of lexical arguments per clause, we found a clear avoidance of lexical arguments (Table 4). The number of

clauses without lexical realization of arguments is at least twice that of clauses with one lexical argument, while clauses with two lexical arguments are extremely rare. The youngest subjects produced only two clauses containing two lexical arguments across their texts. Speakers find other ways to get their message across. One way we noted was use of a series of predicates for conveying the relevant information in a story – and indeed entire texts in both genres were developed without resorting to lexical arguments. Non-argument positions, which were not analyzed in the present study, may also play an important role in establishing the content of a text. Further research should explore different means that speaker-writers use to transmit information without lexicalized core arguments (A, S, or O). Sentence-peripheral components (adjuncts and oblique NP's in general) might well be more informative than sentence-core components. Another line of research needs to explore how far the pattern we found applies beyond personal-experience narratives, where the speaker is protagonist.

Our data provide indirect support for the constraint on the number of new arguments, which could only have been violated in transitive sentences in which both arguments carried new information. The small number of cases where new information was introduced in A position can thus be taken as evidence for the "New Argument Constraint".

As for the two constraints specific to the A argument, our results clearly demonstrate that speakers avoid lexical arguments in A position. We found that only about 10% of arguments in A position are lexical, as against about 30% in narrative or 40% in expository texts in O position (Table 5a and 5b). Lexical arguments in the position of transitive subject are clearly more marked. The same preference was found for the location of new information: Although speakers produce a similar amount of transitive and intransitive clauses, they avoid introducing new information in the subjects of transitive sentences (A position), and prefer to do so in O and S. This finding needs to be interpreted in the context of the more general relationship between grammar and discourse genre, as discussed below.

Concerning the effect of genre, we need to distinguish between general differences that arise from the demands specific to a personal narrative versus discussion of a topic and those that concern 'Preferred Argument Structure'. Our analysis showed that certain constructions – Impersonal, Copular, and Nonfinite – occurred more frequently in expository than in narrative texts. This confirms previous findings for the use of a range of depersonalization devices in expository texts in different languages (Berman in press; Jisa, this volume; Jisa et al. 2002; Tolchinsky & Rosado in press). Our finding that copular and

impersonal constructions were used more frequently in expository texts closely parallel the findings of Berman & Nir-Sagiv (2004) for Hebrew, and correspond to the Reilly et al. (2002) analysis for differences in use of modal expressions in expository versus narrative texts.

It could be, however, that the differential use of copular versus lexical verbs is more marked in speech than in writing. This, too, deserves further investigation. By attending to genre distinctions in the spoken modality alone, we ignore the factor of modality, which has been shown to be crucial in other aspects of text construction (see Berman & Ravid, submitted). Genre *and* modality are the two dimensions through which later language development should be analyzed.

Another genre-related difference concerns the use of A arguments. As discussed, subjects of transitive verbs were commoner in narratives than in expository texts, while the major distinguishing characteristic of these two genres – agent versus topic orientation (Longacre 1996) – was reflected in the differing distribution of A arguments. This general distinction bears directly on the location of new and given information. Because the protagonists (agents) of a narrative usually remain the same throughout the story, once they are first mentioned they are *given.* Thus, reference to them is normally reference to given information. They occupy positions reserved for given information, are referred to by pronouns or by zero, and remain active – known – throughout the text. In contrast, the objects that the protagonists encounter and the events in which they participate change as the text progresses, and are therefore located in positions used for new information – O or S. By the same reasoning, they should be more lexicalized. This is precisely what we have found, in support of Du Bois.

What about expository texts? Here we found consistently fewer A arguments – the position for given information. This is because new topics for discussion may be introduced at any point in an expository piece of discourse, not only at the beginning. As a result, and in light of the constraints on information distribution, we can expect more arguments in positions for new information, and higher lexical realization of these arguments. Again, this is precisely what we found.

Besides the intrinsic interest of identifying a general pattern of interrelations between argument structure and information status, the question arises as to *why* speakers should tend to avoid full lexical arguments and why they prefer to locate new information in object and in postverbal position. A possible answer to the first question is that speakers understandably avoid verbalizing information that can be deduced from context, in this case textual context. As

long as the speaker's references are clear to the listener, there is no need to keep realizing them by means of full lexical expressions. On the other hand, in some of the children's texts, referents were not lexically identified even when this was necessary for comprehension. That is, although the general trend to avoid lexical realization is justified by the principle of economy, children need to learn when they must be more explicit – not only how little but also how much they need to specify – in order to enable the interlocutor to understand the text or to satisfy the demands of the task.

Analysis of NP complexity in subject position in several of the languages in the larger cross-linguistic project showed that in order to meet the demands of genre and modality, speakers in higher age groups increasingly use 'heavy subjects' in positions reserved for given information (Ravid et al. 2002). Heavy subjects take the form of complex NP's that may include prepositional phrases, and relative clauses. Because expository and written texts must be more precise and explicit than spoken personal narratives, they require more lexicalized subjects. This trend to increasing explicitness and lexical specificity develops with age and increased literacy, as shown by several of the chapters in this volume.

In this respect, use of indefinite and definite articles for marking new versus given information needs to be more carefully examined. Here, we applied strictly surface, grammatical criteria: all noun phrases with a definite article or possessive pronoun as modifier were coded as definite, while the rest were coded as indefinite. But, as noted, in Spanish like French or Hebrew but unlike English, the definite article can be used with generic nouns without having the sense of old information at all. Future research should consider not only the definiteness of articles, but also whether they are used for specific or generic reference.

The second question is more complicated. Why should speakers locate new information in object position? The first explanation that occurs involves positioning. The final part of an utterance is more salient and remains more active in memory since it is the last to be spoken. Indeed, 'paying attention to the end' is one of the operating principles suggested early on by Slobin (1973), and many early acquisitions can be explained in terms of positioning. Moreover, in discourse

> there is a strong attraction between local newness marking and postverbal position…This attraction is predicted by the general tendency for new information to occur towards the end of the sentence, obligatory in Chinese, optional in other languages and it emerges with the advent of local marking at around age seven. (Hickmann 2003: 234–236)

We consider this a preliminary attempt at explanation. Further research on O-initial languages like German might help clarify whether the syntactic function of positioning is the main factor in speakers' decision to locate new information in O. This is a far from trivial issue in the explanation of the phenomenon we are investigating.

A major feature of later language development is an increasing sensitivity to the demands of different communicative circumstances and interlocutor needs. With age and literacy, in our culture a consistently important factor in the development of linguistic abilities, children learn to attune their messages to diverse kinds of circumstances and to control discursive variety (Tolchinsky, this volume). The participants in our study undoubtedly related differently to narratives and expository texts. This capacity for differentiation and for adaptation of linguistic devices to genre-specific demands was evident at every level of text organization, from overall structure down to clause linkage, internal construction of clauses, and lexical choices. The fact that children so clearly differentiate between genres and are able to adapt their output to differing communicative demands strengthens the claim that we are concerned here with a universal pattern of inter-relations between grammar and discourse.

Notes

1. This dichotomous presentation oversimplifies the differing degrees of informational status that are involved in actual use of language (Ariel 1990), but is adequate for present purposes.

2. We use only verbs as examples of predicates since we deal here with the argument structure of verbal predicates. Lexical items from other syntactic categories like adjectives can also be considered to be predicates and so take arguments (Di Sciullo & Williams 1987).

3. By 'intransitive', we refer to two-place predicates only, disregarding bitransitives like *give*, *show* for present purposes.

4. Comrie (1978:332) suggests using A, S, and P.

5. Data were collected in the framework of a crosslinguistic project in which 80 subjects at four levels of age and schooling (gradeschoolers aged 9 to 10, junior high students aged 12 to 13, high schoolers aged 16 to 17, and graduate student adults), native speakers of seven different languages, were asked to tell and write a personal-experience narrative and

to give a talk and write an essay on the shared topic of interpersonal conflict. For details of motivations and methodology, see Berman & Verhoeven (2002a).

6. Speaker identity in examples is specified as follows: the first, lowercase letter stands for the language (p = Spanish); the second, uppercase letter stands for grade or age level (G = grade school, J = junior high, H = high school, A = adult); the two digits give the subject number (05 is the fifth subject in that age-group); the next lowercase letter stands for sex (m = masculine, f = feminine); and the last two letters identify text type (es = expository text, ns = narrative text). Thus **pG05fes** stands for a Spanish-speaking grade school child, the fifth subject in that age group, a girl, and her expository spoken text.

7. Personal pronouns are a nominal category in Spanish [+N–V] that behave syntactically like proper rather than like common nouns.

8. The definite article can be used with generic reference in Spanish – like in French or Hebrew but not English – and this may have an effect on the distinction between new and given information.

9. Other studies may count complement clauses like lexical NPs inside their matrix clause, but we feel this needs to be supplemented by analysis of differing NPs complexity, a topic beyond the limits of the present study.

10. Spanish *hay* comes from Latin *habet ibi*, with the NP that follows considered as the object, since in Latin it was marked for accusative case and in modern Spanish exhibits features of a direct object in pronominalization and in interrogation. Other studies of Spanish treat it as an S, since it is the sole argument taken by the verb (e.g., Ashby & Bentivoglio 1993, 2003) but, as noted, we consider it to be an O.

11. This is exactly in accord with the finding from picturebook based oral narratives produced by children aged 3 to 9 years and adults. Thus Berman & Slobin (1994: 540n) note that in contrast to Hebrew and even more markedly to English, "subject pronouns are almost non-existent in the Spanish texts, where null subject is the norm for successive same-subject clauses. There are only 14 subject pronouns in the entire Spanish corpus, five of them used by one 4-year-old."